

BIODIESEL... Should You Use It?

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BIODIESEL: Why Should It be Used in My Fleet?

Hear it from a

Fleet Manager who

jumped in and has not

looked back on

the usage of

B-20 Biodiesel



Steve Russell
Fleet Services Superintendent
City of Keene New Hampshire

By now, many of you have heard of biodiesel. I would like to take a few minutes of your time to share my experiences with a B-20 blend of biodiesel.

It all began with a small grant from the state of New Hampshire to help defray the differential price of a B-20 blend of biodiesel. Based on a great deal of homework and discussion with fellow NAFA Members, the City of Keene put a B-20 blend of ASTM certified biodiesel in its 10,000-gallon tank and has not stopped using it since.

Over 50 months ago after attending a Clean Cities meeting at Antioch College in Keene, New Hampshire, the project began. The meeting was focused on the various types of alternative fuels that help the environment. The subject of biodiesel came up, and, having discussed this fuel with other fleet managers, I became aware that it was a good alternative fuel that could be used without any engine modifications. Basically, you can put it in the tanks and continue operations! It made sense to me to use this fuel. The only problem with Keene was that we had only one tank and it meant that the city would have to use it in all equipment and pay the extra cost in a larger quantity. We were not prepared to do this. Keene's fuel budget was not built to handle the extra cost.

The grant from the governor's energy office made it easier for Keene to try the alternative fuel, but Fleet Services would need to get department head approval to do the test project. After months of research and discussions, the city put B-20 biodiesel in the ground and the rest is history. After five years and over 200,000 gallons of fuel used in 78 pieces of equipment, the experience has been a total success.

The winter of 2003-2004 proved to be one of the coldest in many years and the trucks ran without a problem. In fact, it was reported to me that many cities burning 100 percent premium diesel had gelling problems that winter. Let me explain more.

Some of you reading this article may be thinking that weather in Keene is no comparison to weather in Fargo, North Dakota, or Bangor, Maine. I am here to tell you that

If you purchase a good quality B-20 blend of biodiesel, not only are you reducing your fleet's dependency on foreign oil by 20 percent, but also you will clean up the air for your staff and citizens.

B-20 blend of biodiesel is no different than the 100 percent petroleum product that gets used every winter. The B-20 blend, like diesel fuel, has to be a premium fuel with the proper winter additives to keep the pour point low enough so the equipment keeps running. Insist on the biodiesel having a winter additive called Arctic Express, which is a Power Service product. In addition, one must make sure that the petroleum product used is also a winter blend. That also leads to another important fact when jumping into using biofuels: that of getting a quality BIO product. Even though it may be only 20 percent of the fuel used, it must be an ASTM D-6751 product. Insist on this when you go out to bid for fuel. This is a detail that should not be overlooked. There are a lot of people making small batches of this biofuel from french fry grease, and unless this fuel meets the ASTM standard, a fleet could have winter flow problems.

The city uses biodiesel in a wide range of equipment from 48,000 GVW plow trucks, ambulances, rescue trucks, wheel loaders right down to small garden tractors.

The best part of the use of biodiesel is that when a piece of equipment is pulled into the Keene fleet repair facility to



Some of the varied equipment used by the City of Keene ranging from 48,000 GVW plows trucks, ambulances, rescue trucks, wheel loaders to small garden tractors – all powered by biodiesel

be repaired, there is a significant reduction of pollutants which reduces the health risks to not only city employees but citizens in the rest of the city. All of the technicians who have been working in this biofuel environment have noticed much cleaner air. In fact, several staff have talked about the fact that they no longer get headaches when working on diesel equipment.

After a couple of years of using B-20 and hearing a great deal of anecdotal reports about the air being cleaner, it was time to find out firsthand if this was true. Keene, New Hampshire, is home to Keene State College, which is a part of the New Hampshire University system that supports a strong curriculum in occupational safety programs. In fact, Dr. Melinda Treadwell had received a grant from the EPA and began studying the health effects of diesel fuel emissions. She has studied air quality at ground zero and other

locations where off-road vehicles and equipment are used. After hearing about her studies, I approached her to request that a study be done comparing the air quality of

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100 percent petroleum diesel to a B-20 blend of biodiesel. Long story short, the air quality study was done at the city's transfer station. Students under the watchful eye of the Dr. Treadwell spent two eight-hour days monitoring the non-visible particulate of diesel fuel, otherwise known to the air-quality people as PM 2.5. This particulate is a known carcinogen, which some studies have linked to asthma and cancer. The results of more study indicate that the particulate was reduced by close to 80 percent. This cleaner burning B-20 blend also reduces the amount of formaldehyde and acetaldehyde, also two other known harmful materials coming out of the diesel exhaust.

Now I have the facts backing up all the reports of no more headaches! If you purchase a good quality B-20 blend

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of biodiesel, not only are you reducing your fleet's dependency on foreign oil by 20 percent, but also you will clean up the air for your staff and citizens. If you want more details on biodiesel, go to the National Biodiesel Board's website <http://www.NBB.org>. It is a great resource. You may also contact me at srussell@ci.keene.nh.us.

Using Biodiesel is the Right Thing to Do! 

Stephen Russell, fleet services superintendent for the City of Keene, New Hampshire, is an active Member of NAFA and an expert in several areas relating to fleet management. He is currently presenting his expert opinion on the use of a B-20 blend of biodiesel as he has experienced it firsthand in his operations.

Photos for this article by Michael Plotczyk, www.amethyst-images.com

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